



# **ADMINISTRATION**

The *Construction Manual* is to be used as a guide by field personnel. The Manual is not a set of Specifications. It was compiled to clarify the Standard Specifications and to suggest uniform procedures in the highway construction field work. The Standard Specifications, Supplemental Specifications, plans, proposals, special provisions and all supplementary documents are all binding parts of the contract. Nothing in this Manual changes a contract.

The *Construction Manual* is divided into fourteen major sections. The Administration Section, Sections 100 through 900 (correspond to like numbered sections of the *Standard Specifications for Road and Bridge Construction*), *Construction Memorandums*, *Documentation*, *Project Procedures Guide*, *Construction Inspector's Checklists*, *Forms* and *Equal Employment Opportunity*. Due to constantly changing parameters in construction, it is important to review a particular contract's supplemental specifications and special provisions since they take precedence over the Standard Specifications and plans.

Metric conversions in this manual are a mixture of hard and soft conversions. Check your contract to determine which units apply.

Other sources of information available, but not included in this Manual, are listed below:

- *Departmental Orders*
- *Design and Environment Manual*
- *Standard Specifications for Road and Bridge Construction*
- *Manual of Test Procedures for Materials*
- *Manual on Uniform Traffic Control Devices for Streets and Highways*
- *Policy on the Accommodation of Utilities on Right-of-way of the Illinois State Highway System*
- *Policy on Permits for Access Driveways to State Highways*
- *Employee Safety Code*
- *Geotechnical Manual*
- *Subgrade Stability Manual*
- *Work Site Rotation Manual (Other than Highway Maintenance & Traffic Crews)*

## METRIC INFORMATION

Definitions: Soft Conversion is an exact conversion of the English Unit. Hard Conversion is a close approximation of the English Unit, but is rounded logically in the metric system. The Construction Manual indicates hard metric conversions. Soft metric conversion units are listed on the back of this page.

<u>Basic Dimensions</u>		<u>Prefixes</u>		
millimeter	(mm)	deci (d)	$10^{-1}$	one tenth
meter	(m)	centi (c)	$10^{-2}$	one hundreth
square meter	(sq m)	milli (m)	$10^{-3}$	one thousandth
cubic meter	(cu m)	micro ( $\mu$ )	$10^{-6}$	one millionth
		nano (n)	$10^{-9}$	one billionth
liter	(L)	deca (da)	$10^1$	ten
		hecto (h)	$10^2$	one hundred
pascal	(Pa)	kilo (k)	$10^3$	one thousand
kilopascal	(kPa)	Mega (M)	$10^6$	one million
Megapascal	(MPa)	Giga (G)	$10^9$	one billion
newton	(N)			
kilonewton	(kN)			
joule	(J)			
degree Celsius	(°C)			
gram	(g)			
kilogram	(kg)			
Megagram	(Mg) (metric ton)			
kilogram per square meter (kg/sq m)				
Hectare (ha)				

Metric Measurements

Length	= millimeters, meters, kilometers
Area	= square meters or hectare (10,000 sq m)
Volume	= Liters or cubic meters
Mass	= kilograms, metric tons (1000 kg)
Force	= newton ( $N = kg\ m/s^2$ )
Pressure, Stress	= Pascal ( $Pa = N/sq\ m$ )
Energy, Work	= Joule ( $J = N\ m$ )
Torque	= Newton meter ( $N\ m$ )
Speed, Velocity	= meter/second, kilometers/hour
Acceleration	= meters/second squared, kilometers/hours squared
Density	= kilogram/cubic meter
Temperature	= degrees Celsius
Power	= Watt

Conversions	<u>From English</u>	<u>To Metric</u>	<u>Multiply By</u>
LENGTH			
	in.	mm	25.4
	ft	mm	304.8
	ft	m	0.3048
	yd	m	0.9144
	mile	km	1.609344
	mile	m	1609.344
	inches/mile	mm/km	15.7828
AREA			
	sq inch	sq mm	645.16
	sq ft	sq m	0.092903
	sq yd	sq m	0.836127
	acre	sq m	4046.856
	acre	ha	0.404685
	sq mile	sq km	2.59
VOLUME			
	cubic inch	cu mm	16387.06
	cubic foot	cu m	0.028316
	cubic yard	cu m	0.764555
	gallon	L	3.78541
	gal/yd	L/m	4.1398
	gal/sq yd	L/sq m	4.5273
	gal/cubic yd	L/cu m	4.9511
	gal/acre	L/ha	9.354
	gal/ton	L/metric ton	4.1726

Conversions	<u>From English</u>	<u>To Metric</u>	<u>Multiply By</u>
MASS			
	ounces	g	28.349523
	pound	kg	0.453592
	kip (1000 lbs.)	metric ton	0.453592
	ton	metric ton	0.9072
FORCE			
	pound	N	4.44822
	kip	kN	4.44822
FORCE/UNIT LENGTH			
	lb/ft.	N/m	14.5939
	lb/in.	N/mm	0.1751
PRESSURE, STRESS			
	lbs./sq ft	Pa	47.8803
	kips/sq ft	kPa	47.8803
	lbs./sq in.	kPa	6.89476
	lbs./sq in.	MPa	0.006895
	kips/sq in.	MPa	6.89476
ENERGY			
	foot pound	J	1.35582
MASSES/LENGTH			
	ounces/sq yd	kg/sq m	0.0339057
	lbs./sq ft	kg/sq m	4.8824
	lbs./sq yd	kg/sq m	0.5425
	lbs./cubic ft	kg/cu m	16.01894
	lbs./cubic yd	kg/cu m	0.5933
	lbs./acre	kg/ha	1.1208
	ton/acre	metric ton/ha	2.2417
TEMPERATURE			
	$(^{\circ}\text{F} - 32)/1.8 = ^{\circ}\text{C}$		

**FEDERAL HIGHWAY ADMINISTRATION (FHWA)**

On a highway project financed wholly or in part with Federal funds, the terms of Federal participation are set up in an agreement between the Department and the [Federal Highway Administration](#) (FHWA). Each Federal-aid project agreement provides that the work is to be done in accordance with predetermined standards embodied in the plans and specifications, in other approved standard drawings, and in any special provisions required due to the nature of the project.

The contract for the Federal-aid project is awarded by the Department with the concurrence of the FHWA. Supervision of construction is a function of the Department and its Engineers and Inspectors. However, Engineers from the FHWA will make inspections on Federal-aid projects at times selected by them. In addition, FHWA Engineers may make a final inspection on selected projects with federal funds.

The relationship between the FHWA and the Department does not directly involve the Contractors. [Federal Highway Administration](#) representatives periodically inspect projects for the purpose of reviewing the Department's procedures requiring the project to be constructed in accordance with the commitments contained in the Federal-aid project agreement. The FHWA representative will inspect the Department's performance, not the Contractor's. The FHWA representative has neither responsibility nor authority to deal directly with the Contractor.

Department employees should cooperate with the FHWA representatives in their inspections. Their comments should be noted in the diary and matters that require action should be promptly referred to the Regional Engineer. When an Area Engineer representative from the FHWA inspects any Interstate project, attention should be called to necessary extra work and to any proposed changes. All major changes on Interstate projects and to the commitment file on all Federal-aid projects must have concurrence of the FHWA before any of the work is started. Refer to Construction [Memorandum No. 4](#), Contract Changes, Articles 104.02 and 109.04.

# ILLINOIS DEPARTMENT OF TRANSPORTATION

## REGION and DISTRICT BOUNDARIES

### WITH OFFICE LOCATION

#### Region 1

##### DISTRICT 1

201 WEST CENTER COURT  
SCHAUMBURG, ILLINOIS 60196-1096  
PHONE: 847/705-4000

#### Region 2

##### DISTRICT 2

819 DEPOT AVENUE  
DIXON, ILLINOIS 61021-3546  
PHONE: 815/284-2271

##### DISTRICT 3

700 EAST NORRIS DRIVE  
P. O. BOX 697  
OTTAWA, ILLINOIS 61350-0697  
PHONE: 815/434-6131

#### Region 3

##### DISTRICT 4

401 MAIN STREET  
PEORIA, ILLINOIS 61602-1111  
PHONE: 309/671-3333

##### DISTRICT 5

STATE HIGHWAY BUILDING  
13473 IL Hwy. 133  
P. O. BOX 610  
PARIS, ILLINOIS 61944-0610  
PHONE: 217/465-4181

#### Region 4

##### DISTRICT 6

126 EAST ASH STREET  
SPRINGFIELD, ILLINOIS 62704-4792  
PHONE: 217/782-7301

##### DISTRICT 7

STATE HIGHWAY BUILDING  
400 WEST WABASH  
EFFINGHAM, ILLINOIS 62401-2699  
PHONE: 217/342-3951

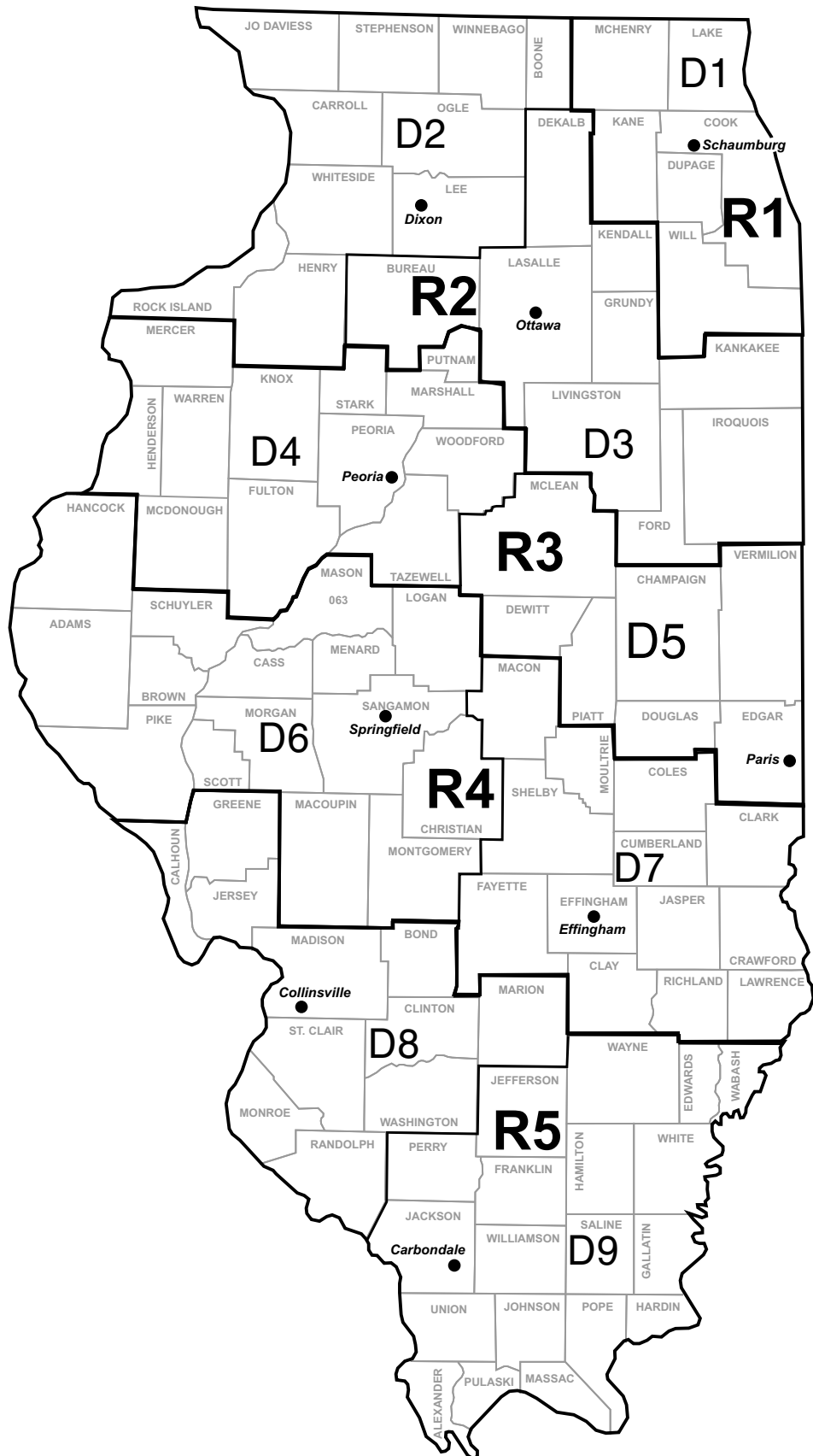
#### Region 5

##### DISTRICT 8

1102 EASTPORT PLAZA DRIVE  
COLLINSVILLE, ILLINOIS 62234-6198  
PHONE: 618/346-3100

##### DISTRICT 9

STATE HIGHWAY BUILDING  
P. O. BOX 100  
CARBONDALE, ILLINOIS 62903-0100  
PHONE: 618/549-2171



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